

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A ball-point pen comprising, at a tip portion of an ink tube, a ball-point pen tip rotatably supporting a ball either directly or across a tip holder,
wherein an ink is directly filled in the ink tube,
wherein the ink comprises a solvent consisting essentially of a water and an alcoholic solvent, said solvent having a vapor pressure at 20°C of 0.5 kPa or higher, ~~to 13 kPa~~, a pigment constituting a coloring material, an antirusting lubricant consisting of phosphoric acid ester surfactant, and a water-soluble resin constituting a writing fixing agent,
wherein an ink viscosity at 20°C is within a range of 5 to 30 mPa·s, and
wherein the ball-point pen tip is formed by a stainless steel material and the ball has a surface roughness of 5 nm or less in an arithmetic average.

2. (Previously presented) The ball-point pen according to claim 1, wherein the water-soluble resin is present by 5 to 20 mass% with respect to a total amount of the ink composition.

3. (Previously presented) The ball-point pen according to claim 1, wherein the water-soluble resin is an acrylic resin.

4. (Previously presented) The ball-point pen according to claim 3, wherein the acrylic resin has a weight average molecular weight of 5000 to 20000, a glass transition point of 40 to 150°C and an acid value of 50 to 250.

5. (Previously presented) The ball-point pen according to claim 1, wherein the solvent formed by a water and the alcoholic solvent constitutes 60 to 90 mass% of the entire amount of the ink composition, and the alcoholic solvent constitutes 5 to 15 mass% of the entire amount of the ink composition.

6. (Previously presented) The ball-point pen according to claim 1, wherein the pigment constitutes 1 to 10 mass% of the entire amount of the ink composition.

7. (Canceled)

8. (Previously presented) The ball-point pen according to claim 1, wherein the ball-point pen tip includes a valve mechanism which presses the ball, rotatably supported in the pen tip, in a non-use state to an internal wall of a pen tip ridge by a coil spring impinging on a rear end of the ball either directly or across a pressing member and which forms a gap between the internal wall of the pen tip ridge by a pressure at a writing thereby allowing the ink to flow out.

9. (Previously presented) The ball-point pen according to claim 1, wherein the ink tube is provided with an ink following member, in contact with an ink surface at a tail portion opposite to a mounting part at the front tip for writing.

10. (Canceled)

11. (Previously presented) A process of using a ball-point pen as claimed in any one of claims 1 to 6, wherein the ball-point pen is used to write on a non-permeable writing surface.

12. (Canceled)

13. (Previously presented) The ball-point pen according to claim 1, wherein an ink viscosity at 20°C is within a range of 10 to 30 mPa·s.

14. (Canceled)